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Application No. 09/965,206

Remarks

The various parts of the Office Action (and other matters, if any) are discussed below under appropriate headings.

Amendments

Claims 32 and 33 have been canceled, rendering the rejection moot as to those claims. Claims 1 and 30 have been amended to specify that the substrate has a substantially flat conductive surface, from which a plurality of discrete cavities extend. Claims 1 and 30 also were amended to clarify that the "bottom surface" is the bottom surface of individual cavities.

New claim 34 has been added, and while it is similar to pending claim 1 it is not limited to the case where the transformer reflects electromagnetic energy to or from a focal point. The term "wavefront" has been further defined in this claim as a wave having equal-phase surfaces of a given shape. See specification, page 8, lines 13-18.

Dependent claims 35 and 36 also have been added, as well as method claim 37.

Allowed Claims

The allowance of claims 10-28 and 25-29 is appreciated.

Rejections under 35 U.S.C. §103

Claims 1-9, 19-24 and 30-33 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 2,617,030 to Rust et al. ("Rust").

It is respectfully submitted that Rust fails to teach or suggest the claimed wavefront transformer having a substantially flat conductive surface with a plurality of cavities with openings in the conductive surface. As shown in Rust's FIG. 4, for example, Rust's partition plates W do not have a uniform height; their curvature means

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that Rust's mirror fails to define a flat conductive surface for reflecting incident electromagnetic energy. No teaching or suggestion has been found for giving Rust's partition plates a uniform height. In fact, doing so would appear to go against the teachings of Rust.

In addition, the embodiments described by Rust each have partition plates that extend perpendicularly from a flat mirror reflective surface. These partition plates primarily are open at the edges of the mirror. The embodiment shown in FIG. 10 is the only embodiment that discloses discrete cavities that are closed on three sides, due to the addition of baffle plates B to the previously disclosed partition plates W. But even FIG. 10 of Rust fails to disclose an arbitrarily-shaped conductive surface and a plurality of cavities in the conductive surface in selected positions to impose a position-dependent phase shift on the reflected wavefront from a given first shape into a reflected wavefront of a desired second shape.

It is further submitted that Rust fails to teach or suggest the method of claim 37, including the steps of forming a plurality of openings in a conductive surface and selecting a position of each opening to impose a position-dependent phase shift on the reflected wavefront to transform the incident wavefront from a given first shape into a reflected wavefront of a desired second shape.

It is respectfully submitted that a person of ordinary skill in the art would not have been motivated to modify Rust in the proposed manner. Withdrawal of the rejection is requested.

Telephone Interview Request

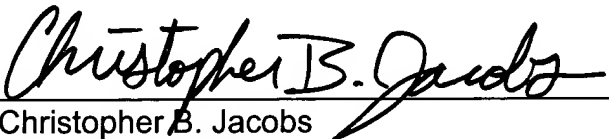
The undersigned requests a telephone interview to resolve any remaining issues concerning the allowability of this application.

Conclusion

In view of the amendments and remarks, issuance of a notice of allowance is respectfully requested.

Respectfully submitted,

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